

Title (en)

Area ruled fan blade ends for turbofan jet engine.

Title (de)

Bläzerschaufelende basierend auf regelbarem Querschnitt für ein Turbotriebwerk.

Title (fr)

Extrémités d'aubes de turbosoufflante, à section réglée.

Publication

EP 0622526 A1 19941102 (EN)

Application

EP 94300924 A 19940208

Priority

US 5520393 A 19930430

Abstract (en)

An annular casing (12) axially conducts fluid through, defining a central longitudinal axis (A). A hub (26) is rotatably supported about the axis within the casing. Rotor blades (50) are spaced about and radiate from the hub, each of the rotor blades including a part-span damper (56) circumferentially interconnecting the next adjacent rotor blade. An area rule (58) is formed in one of the hub (26) and casing (12) for reducing drag between the casing and hub caused by the part-span dampers (56) at transonic speed. The area rule comprises an annularly troughed contour (60). The troughed contour is radially aligned with the part-span dampers.

IPC 1-7

F01D 5/14; F01D 5/24; F02C 7/04

IPC 8 full level

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CPC (source: EP US)

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F05D 2220/327 (2013.01 - EP US); **Y02T 50/60** (2013.01 - EP US); **Y10S 415/914** (2013.01 - EP US)

Citation (search report)

- [A] GB 858706 A 19610111 - UNITED AIRCRAFT CORP
- [A] US 4012165 A 19770315 - KRAIG ALFRED HENRY
- [A] FR 996967 A 19511231 - RATEAU SOC
- [A] GB 2192234 A 19880106 - ROLLS ROYCE PLC
- [A] EP 0393283 A1 19901024 - ROLLS ROYCE PLC [GB]
- [A] US 3989406 A 19761102 - BLISS DONALD B
- [A] US 4798519 A 19890117 - ZIPPS ROBERT H [US], et al
- [A] EP 0266298 A2 19880504 - UNITED TECHNOLOGIES CORP [US]
- [A] US 4566700 A 19860128 - SHIEMBOB LAWRENCE T [US]
- [T] US 2874922 A 19590224 - WHITCOMB RICHARD T
- [A] US 3806067 A 19740423 - KUTNEY J

Cited by

EP1953344A1; DE102004059904A1; EP1531233A3; EP2935787A4; EP3514334A1; WO2014099634A2; US9261112B2; WO9740261A1

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